



## REMARKS

This submission is in response to the Official Action dated October 24, 2001.

Claims 1-20 are pending. Claims 1-15 previously were elected in response to a requirement for restriction. The Office Action requires an election of species, but does not specify any Figures.

The Examiner characterizes a first species as "bonding an Al wire with the Ta layer wherein a portion of the Ta layer bonds with the Cu bond pad". The Examiner characterizes a second species as "wherein a portion of the passivation layer forms a metallurgical bond with the interconnect material" (emphasis added). No generic claim has been found.

To comply with the requirement applicants herewith elect with traverse the "first species". At least claims 1-9 are readable on this species.

It is submitted that the requirement for election is in error. While the non-elected claims 10-15 of the "second species" do not specifically recite the Ta passivation layer and the Al wire, these "second species" claims read on the "first species" if not actually being generic to the "first species".

Reference is made to pages 9-10 of the Specification. At page 10, lines 1-2, it is stated that  $TaAl_3$  is a stable metallurgical compound formed between the Ta layer and the Al wire. Also, at page 10, lines 10-15, and specifically lines 13-15,

the Specification explains that the intermetallic compound  $TaAl_3$  "facilitates the forming of a strong metallurgical bond (i.e., wedge bond 36) with the Cu interconnect 31".

Claim 10, which recites the "metallurgical bond", has been amended to more clearly recite the process. Note that claim 13, which depends from claim 10, recites the "wedge bonding", i.e., metallurgical bond. Note also claim 5 which recites the wedge bonding with the specific Al wire and Ta passivation layer. Claim 10 is clearly a generic claim. Further, claims 11-15 also read on the elected "first species" or are generic (broader than) thereto.

Claim 21 has been added which recites the "encapsulation" aspect of claim 10. Accordingly, all of claims 1-15 and 21 should be examined.

Reconsideration of the original requirement for restriction is also requested. The device set forth in claims 16-20 is clearly a result of the method of claims 1-15 and 21. To properly search the elected invention, devices produced by such a method would also have to be considered.

Prompt and favorable action is requested.

In view of the above amendments and remarks, it is respectfully requested that the application be reconsidered. A favorable action on the merits is requested.

If there are any other issues remaining which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the

Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Melvin C. Garner', is written over a horizontal line.

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**MARK-UP OF CLAIMS FOR AMENDMENT  
PURSUANT TO 37 C.F.R. §1.121**

10. (Amended) A wire bonding method, comprising the steps of  
forming a [passivation layer] bond pad made from an interconnect  
material on a semiconductor substrate;  
[bonding a wire onto the passivation layer; and]  
encapsulating [a] said bond pad [made from an interconnect material,]  
with a passivation layer;  
bonding a wire onto the passivation layer, wherein the wire is more  
metallurgically stable than the interconnect material;  
wherein a portion of the passivation layer forms a metallurgical bond  
with the interconnect material; and  
wherein a mechanical and electrical connection is provided between  
the interconnect material and the wire, with the passivation layer disposed  
therebetween.

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